

# **PROGRAM SUCCESS – A NEW WAY TO PREDICT IT**

**John Higbee**

**DAU**

**14 May 2003**

# STARTING POINT

- **Tasking From ASA(ALT) Claude Bolton (March 2002)**
  - **Despite Using All the Metrics Commonly Employed to Measure Cost, Schedule, Performance and Program Risk, There are Still Too Many Surprises (Poorly Performing /Failing Programs) Being Briefed “Real Time” to Army Senior Leadership**
- **DAU (with Industry Representatives) was Asked to:**
  - **Identify a Comprehensive Method to Better Determine the Probability of Program Success**
  - **Recommend a Concise “Program Success” Briefing Format for Use by Army Leadership**

# PROCESS PREMISE

- **Current Classical Internal Factors for Cost, Schedule, Performance and Risk (Largely Within the Control of the Program Manager) Provide an Important Part of Program Success Picture – But NOT the WHOLE Picture**
  - **Program Success also Depends on External Factors (Largely Not Within the PM's Control, but That the PM Can Influence By Informing/Using Service/OSD Senior Leadership)**
- **Accurate Assessment of Program Success Requires a Holistic Combination of Internal and External Factors**
  - **Internal: Requirements, Resources, and Execution**
  - **External: Fit in the Vision, and Advocacy**
- **Develop An Assessment Model/Process Using Selected Metrics For Each Factor - Providing an Accurate “Program Pulse Check”**
  - **Avoiding The “Bury In Data” Technique**

# BRIEFING PREMISE

- **Significant Challenge – Develop a Briefing Format That**
  - **Conveyed Program Assessment Process Results Concisely/Effectively**
  - **Was Consistent Across Army Acquisition**
- **Selected Briefing Format:**
  - **Uses A Summary Display**
    - **Organized Similarly to a Work Breakdown Structure**
      - **Program Success (Level 0); Factors (Level 1); Metrics (Level 2)**
  - **Relies On Information Keyed With Colors And Symbols, Rather Than Dense Word/Number Slides**
    - **Easier To Absorb**
  - **Minimizes Number of Slides**
    - **More Efficient Use Of Leadership's Time**

PEO  
XXX

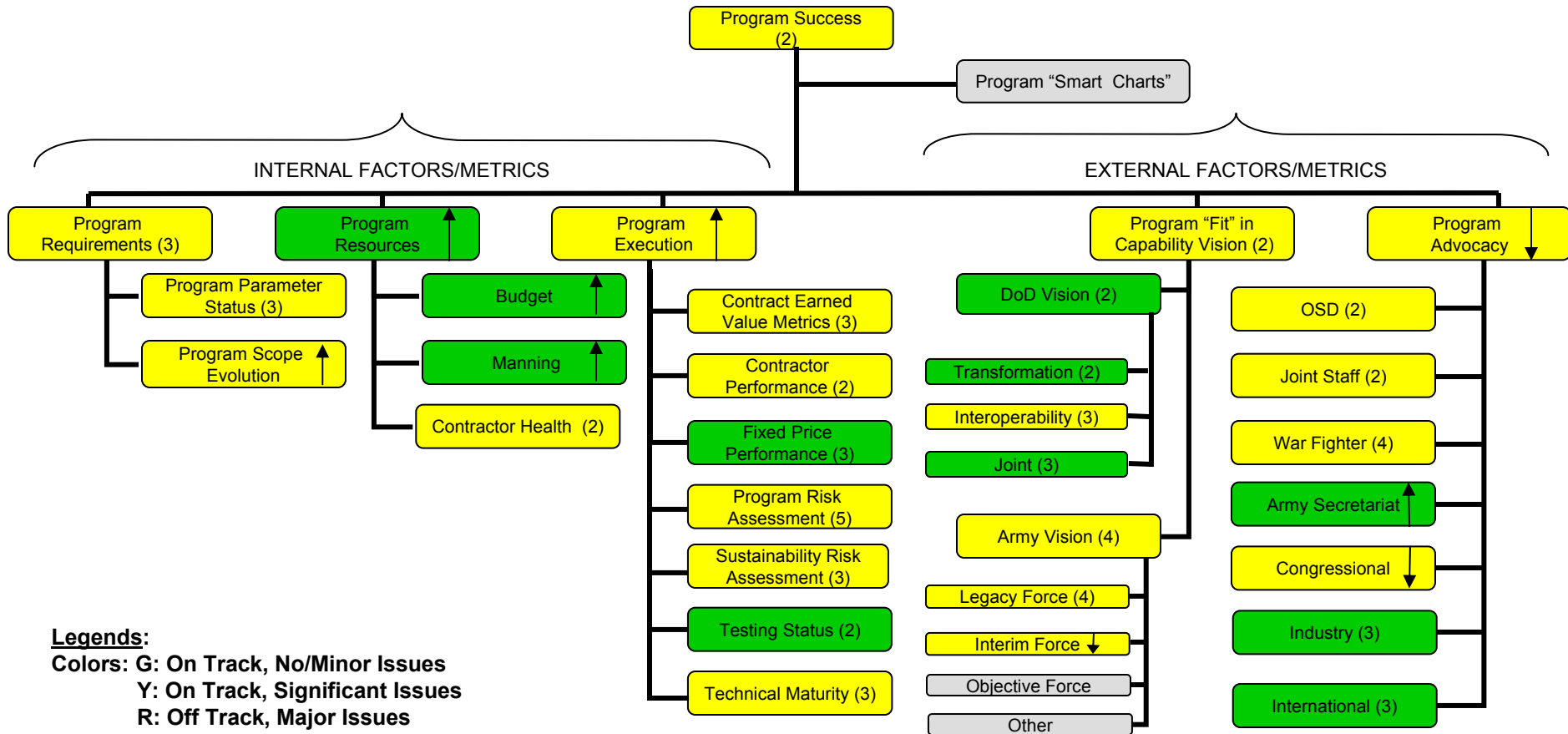
# PROGRAM SUCCESS PROBABILITY

## SUMMARY

COL, PM

Date of Review: dd mmm yy

Program  
Acronym  
ACAT XX



### Legends:

Colors: G: On Track, No/Minor Issues  
Y: On Track, Significant Issues  
R: Off Track, Major Issues  
Gray: Not Rated/Not Applicable

Trends: Up Arrow: Situation Improving  
(number): Situation Stable  
(for # Reporting Periods)  
Down Arrow: Situation Deteriorating

Program Life Cycle Phase: \_\_\_\_\_



February 4, 2002

# 2d Gen FLIR

UNCLASSIFIED

MAJ Ron Jacobs, SAAL-SA, COM 703-604-7018

Mr. Greg Wade, DAPR-FDM, COM 703-692-6253

## program Description

## Schedule

### Mission:

-Provides enhanced capability to fight during periods of reduced visibility. Also, provide multiple platforms the capability to "see farther than they can shoot" and "see the same battle space".

### Characteristics/Description:

- Common "B kit" for LRAS3, Abrams and Bradley
- Unique "A kit" for each sight
- FOV: Narrow 2 degrees x 3.6 degrees  
Wide 7.5 degrees x 13.3 degrees

### Capability/Improvements:

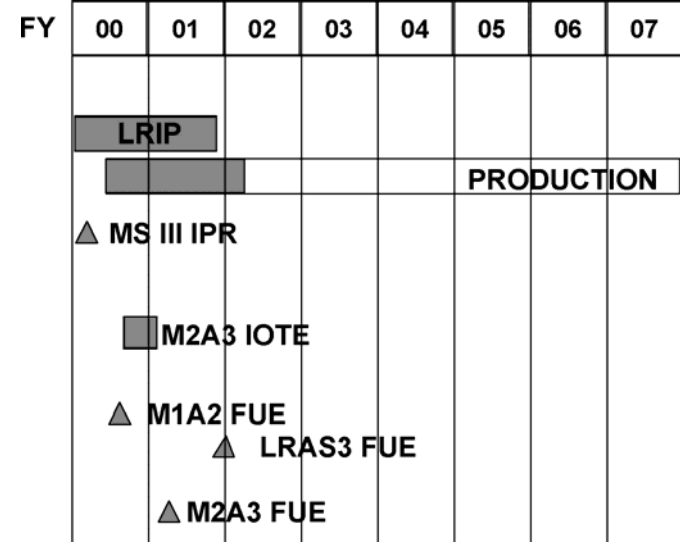
- > range over 1st Gen FLIR
- +55% target detection
- +70% target recognition
- +150% target identification

### Special Features:

- Digital output
- Adapts to different platforms
- 2X + 4X Electronic Zoom
- Improved Displays

### Contractors:

Raytheon  
Dallas, TX - Manufactures LRAS3, CITV, B Kit and related spares. FY02 \$ 63.6M + TBD  
DRS  
Palm Bay, FL - Manufactures LRAS3, TIS, B Kit and related spares. FY02 \$ 37.2M + TBD



## Program Funding

## Current Status

### FY02 President's Budget (As of June 26, 2001)

	PRIOR	00	01	02	03	04	05	06	07	CTC	TOTAL
RDTE	205.2	1.5	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	209.0
PROC	284.9	155.5	181.4	168.6	157.9	147.0	150.7	148.4	114.8	217.1	1726.3
TOTAL	490.1	157.0	182.9	169.4	157.9	147.0	150.7	148.4	114.8	217.1	1935.3
QTY	740	468	487	616	441	446	478	370	186	606	4838

### FY03 President's Budget (As of January 25, 2002)

	PRIOR	00	01	02	03	04	05	06	07	CTC	TOTAL
RDTE	205.2	1.5	1.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	208.9
PROC	284.9	155.5	177.2	167.8	133.5	119.1	130.9	129.0	97.9	213.2	1609.0
TOTAL	490.1	157.0	178.6	168.6	133.5	119.1	130.9	129.0	97.9	213.2	1817.9
QTY	740	468	487	620	445	458	496	439	318	180	4651

Prg Chg	0.0	0.0	-4.3	-0.8	-24.4	-27.9	-19.8	-19.4	-16.9	-3.9	-117.4
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### Notes

FY03 President's Budget quantities reflect current platform requirements. Database will be updated during the POM process.

### COST:

- RDTE \$208.9M
- PROC \$1,609.0M

### SCHEDULE:

- On Schedule

### TECHNICAL:

- Meeting technical requirements

### FIELDING:

- ABRAMS 1CD (3QFY02)
- BRADLEY 1CD (2QFY02)
- LRAS3 4ID(M) (3QFY02)  
1ST IBCT (4QFY02)  
1CD (1QFY03)

### FUNDING:

- |        | FY02     | FY03     |
|--------|----------|----------|
| - RDTE | \$ 0.8M  | \$ 0.0M  |
| - PROC | \$168.6M | \$133.5M |
| - QTY  | 620      | 445      |
- LRAS3 FBCB2 Interface  
B Kits and Sights for Abrams, Bradley and LRAS3

### ISSUES:

- None

### TRANSFORMATION CAMPAIGN PLAN:

- This program supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP)



## 2d Gen FLIR

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### 2nd Gen FLIR

#### 1st Gen

WFOV 3.4° x 6.8°  
NFOV 1.1° x 2.2°



WFOV 7.5° x 15°  
NFOV 2.5° x 5°



#### 2d Gen

WFOV 7.5° x 13.3°  
NFOV 2.0° x 3.6°



#### CONDITIONS

Target Size: 2.3 x 2.3 m  
 $\Delta T$ : 1.25° C P=.70  
70% ATM

150% Increase to  
Combat Identification  
Range

### Congressional / OSD Issues

None.

### Requirements and Unit Costs

#### QUANTITY REQUIREMENTS

AAO: Not yet determined

Proc Objective: 4,651 <sup>(1)</sup>

O&O / ORD			FIELDING
Unit	ORG	QTY	
2 FLIRS per M1A2SEP			• Bradley 1CD (2QFY02)
2 FLIRS per BFVS			• Abrams 1CD (3QFY02)
1 FLIR per LRAS3			• LRAS3 4ID(M) (3QFY02) 1ST IBCT (4QFY02) 1CD (1QFY03)

#### UNIT COST DATA

OVER TOTAL PROGRAM TY  
\$Unit Costs (\$M) Then-Year \$  
Flyaway Cost 0.345

Wpn Sys Cost	*
Proc Cost	0.346
Prog Acq Cost	0.391
Qty	4,651
<b>Program (\$M)</b>	<b>Then-year \$</b>
RDTE	208.9
Proc	1,609.0
MCA	0
<b>Tot Program</b>	<b>1,817.9</b>

Note: Weapons system costs are resident in  
other platform's unit cost data

Source: FY03 President's Budget

### FY02 Congressional Track

• No language

• No language

SASC:

• No language

SAC:

• No language

CONF:

• No language

CONF:

• No language

(1) Does not include additional quantities for IBCT for LRAS3

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# REQUIREMENTS - PROGRAM PARAMETER STATUS

Program  
Acronym  
ACAT XX

COL, PM

Date of Review: dd mmm yy

*(EXAMPLES)*

Combat Capability

C4I Interoperability  
(Strategic, Theater, Force  
Coord., Force Control, Fire  
Control)

Cost

Manning (Non-KPP)

Sustained Speed

Endurance

Comments:

Threshold

Objective



Position diamond  
along bar to best show  
where each item is in  
terms of its threshold -  
objective range.

◇ -Status as of Last Brief  
(mm/yy – e.g. “01/03”)

Predictive



Historical



PEO  
XXX

**REQUIREMENTS -**  
**PROGRAM SCOPE EVOLUTION**

Program  
Acronym  
ACAT XX

COL, PM

Date of Review: dd mmm yy

	<u>Requirement</u>	<u>Funded Pgm</u> (Budgeted/Obl)	<u>Schedule (CE to FUE)</u> (Used / Planned)
• <u>Original</u>	ORD (date)	\$.#B / NA	NA / 120 Months
• <u>Current</u>	ORD (date) Stable Increased Descoped	\$.#B / \$.#B	170/210 Months

Comments:

Predictive



Historical



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# **RESOURCES - BUDGET**

**Program  
Acronym  
ACAT XX**

**COL, PM**

**Date of Review: dd mmm yy**

Army Goals (Obl/Exp):	First Year	Second Year	Third Year
RDT&E,A	95%/58%	100%/91%	-----
OP,A	70%/---	85%/---	100%/---
OM,A			-----

SUFF R/Y/G	FY01	OBL/ EXP	FY02	OBL/ EXP	FY03	OBL/ EXP	FY04	FY05	FY06	FY07	FY08	FY09
RDT&E, A		Xx% /yy%		Xx% /yy%		Xx%/ yy%						
OPA	N/A	Xx% /yy%	N/A	Xx% /yy%	N/A	Xx%/ yy%	N/A	N/A	N/A			
APA	N/A	Xx% /yy%	N/A	Xx% /yy%	N/A	Xx%/ yy%	N/A	N/A	N/A	N/A	N/A	N/A
WPA	N/A	Xx% /yy%	N/A	Xx% /yy%	N/A	Xx%/ yy%	N/A	N/A	N/A	N/A		
O&M,A	N/A	Xx% /yy%	N/A	Xx% /yy%		Xx%/ yy%						
MILCON	N/A	Xx% /yy%	N/A	Xx% /yy%	N/A	Xx%/ yy%	N/A	N/A	N/A	N/A	N/A	N/A

Predictive

**Comments:**

Historical



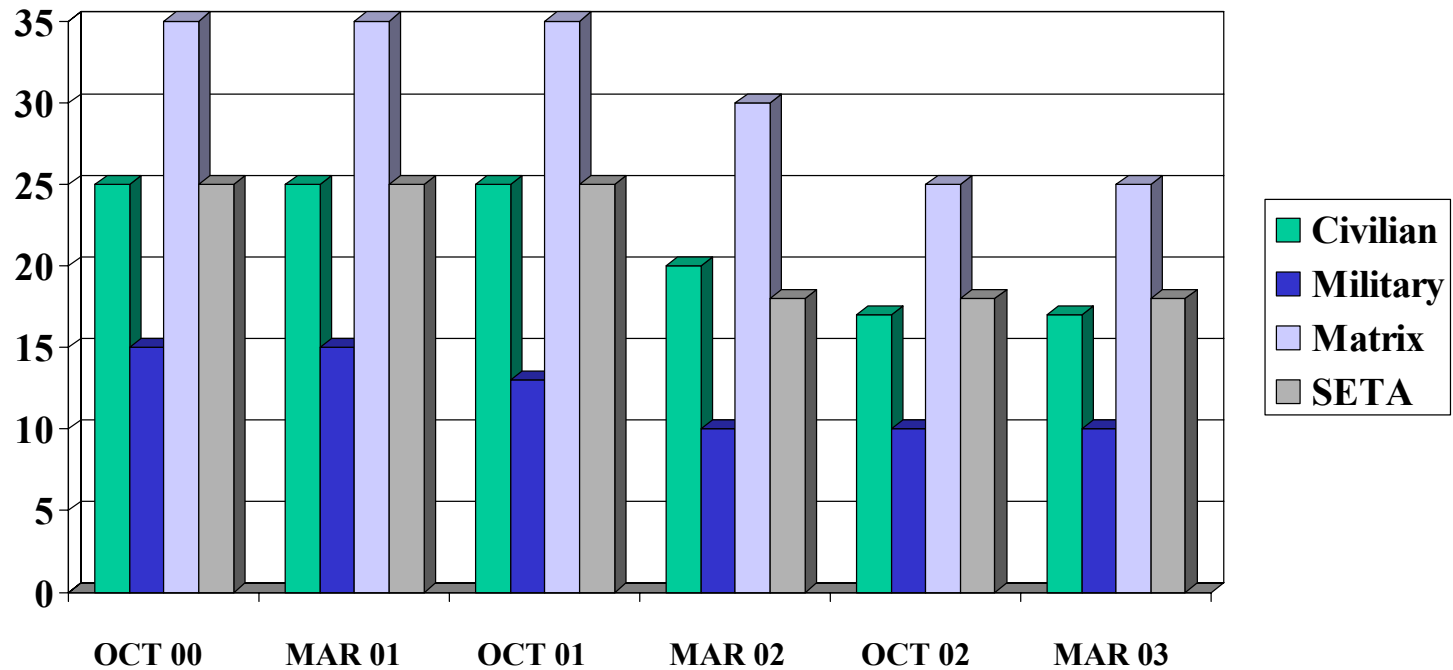
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XXX

## RESOURCES - MANNING

Program  
Acronym  
ACAT XX

COL, PM

Date of Review: dd mmm yy



**Comments:**

**What Key Billets are Vacant?**

- DPM Billet Still Vacant (Estimate Fill in Two Months)
- Lead Software Engineer (Emergent Loss) – Tech Director Filling In
  - Need S/W Experienced GS-14 ASAP

**Is the Program Office Adequately Staffed? Yes (except as noted above)**

Predictive



Historical



- **Corporate Indicators**
  - **Company/Group Metrics**
    - **Current Stock P/E Ratio**
    - **Last Stock Dividends Declared/Passed**
    - **Industrial Base Status (Only Player? One of \_\_ Viable Competitors?)**
      - **Market Share in Program Area, and Trend (over last Five Years)**
    - **Significant Events (Mergers/Acquisitions/ “Distractors”)**
- **Program Indicators**
  - **Program-Specific Metrics**
    - **“Program Fit” in Company/Group**
    - **Program ROI (if available)**
    - **Key Players, Phone Numbers, and their Experience**
    - **Program Manning/Issues**
    - **Contractor Facilities/Issues**
    - **Key Skills Certification Status (e.g. ISO 9000/CMM Level)**
- **PM Evaluation of Contractor Commitment to Program**
  - **High, Med, or Low**

Predictive



Historical



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XXX

# EXECUTION – CONTRACT EARNED VALUE

## METRICS [give short contract title]

COL, PM

Date of Review: dd mmm yy

Program  
Acronym  
ACAT XX

Axxxxx-YY-Cxxxx

Contractor Name [Prime or Significant Sub]

[ $TCPI_{EAC} = 0.76$ ]

CV = \$2.0 M

SV = \$2.9 M

04/00

01/02

04/02

04/04

08/04

Total Calendar Schedule

PM's EAC

0 %

42%

50%

100%

108%

122%

\$M

\$110 EAC

\$100 TAB

\$90 BAC

1.18

Behind Schedule and Underspent

Ahead of Schedule and Underspent

1.14

1.10

1.06

1.02

1.02

PM's Projected  
Performance at Completion  
for CPI and Duration.

CPI

0.98

0.94

0.90

0.86

0.82

Behind Schedule and Overspent

Ahead of Schedule and Overspent

111%

100%

56%

EV % Spent

Total Spent

ACWP

KTR's EAC: 104M

YYMMDD Historical

Predictive

Y

Date of Last Award Fee: MMM YY

Date of Next Award Fee: MMM YY

SPI

Date of Last Rebaselining: JAN02

13 Number of Rebaselinings: 1

Date of Next Rebaselining: MMM YY

Y<sub>(3)</sub>

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# EXECUTION – CONTRACTOR PERFORMANCE

COL, PM

Date of Review: dd mmm yy

Program  
Acronym  
ACAT XX

Contractor:	((Contractor Name))							Contract Start Date:			MMM YY			
Program:	((Program Name))							Estimated Completion Date:			MMM YY			
Contract Number:	N00000-00-C-0000													

Item: (CPAR, IPAR or AF)	AF	CPAR	AF	AF	IPAR	CPAR	IPAR	AF	IPAR	IPAR	AF	IPAR	CPAR	IPAR
Period Ending: (Mmm YY)	Jan 99	Apr 99	Jul 99	Jan 00	Mar 00	Apr 00	Jun 00	Jul 00	Sep 00	Dec 00	Jan 01	Mar 01	Apr 01	Jun 01
Months Covered: (NR)	6	12	6	6	3	12	3	6	3	3	6	3	12	3

Areas to Evaluate														
a. Technical (Quality of Product)		EXC			EXC	EXC	EXC							
(1) Product Performance		VG			VG	VG	VG							
(2) Systems Engineering		SAT			SAT	SAT	SAT							
(3) Software Engineering		MARG			MARG	MARG	MARG							
(4) Logistics Support/Sustainment		UNSAT			UNSAT	UNSAT	UNSAT							
(5) Product Assurance		EXC			EXC	EXC	EXC							
(6) Other Technical Performance		VG			VG	VG	VG							
b. Schedule		SAT			SAT	SAT	SAT							
c. Cost Control		MARG			MARG	MARG	MARG							
d. Management		UNSAT			UNSAT	UNSAT	UNSAT							
(1) Management Responsiveness		EXC			EXC	EXC	EXC							
(2) SubContract Management		VG			VG	VG	VG							
(3) Program Mgmt and Other Mgmt		SAT			SAT	SAT	SAT							
e. Other Areas		MARG			MARG	MARG	MARG							
(1) Communications		UNSAT			UNSAT	UNSAT	UNSAT							
(2) Support to Government Tests		UNSAT			UNSAT	UNSAT	UNSAT							

Award Fee Percentage:	85%		70%	90%				84%						
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Predictive



Historical



- **DCMA Plant Rep Evaluation**
  - **Major Issues**
- **Delivery Profile Graphic (Plan vs Actual)**
  - **Major Issues**
- **Progress Payment Status**
  - **Major Issues**

Predictive



Historical



PEO  
XXX

# EXECUTION - PROGRAM RISK ASSESSMENT

COL, PM

Date of Review: dd mmm yy

Program  
Acronym  
ACAT XX

- A brief description of Issue # 1 and rationale for its rating.
- Approach to remedy/mitigation

- A brief description of Issue # 3 and rationale for its rating.
- Approach to remedy/mitigation

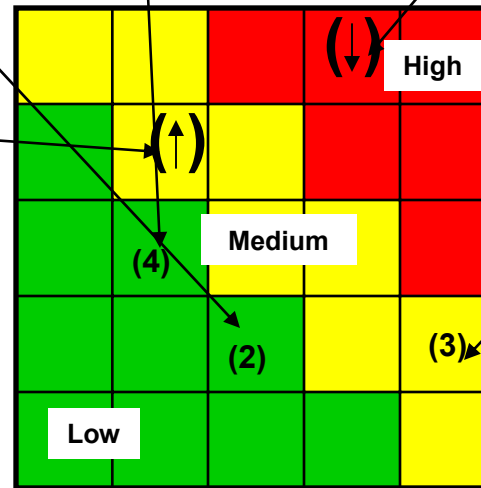
- A brief description of Issue # 5 and rationale for its rating.
- Approach to remedy/mitigation

- A brief description of Issue # 2 and rationale for its rating.
- Approach to remedy/mitigation

- A brief description of Issue # 6 and rationale for its rating.
- Approach to remedy/mitigation

Trends: Up Arrow: Situation Improving  
(#): Situation Stable  
(for # Reporting Periods)  
Down Arrow: Situation Deteriorating

Likelihood



Low

Medium

High

Consequence

Predictive



Historical



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XXX

# EXECUTION – SUSTAINABILITY

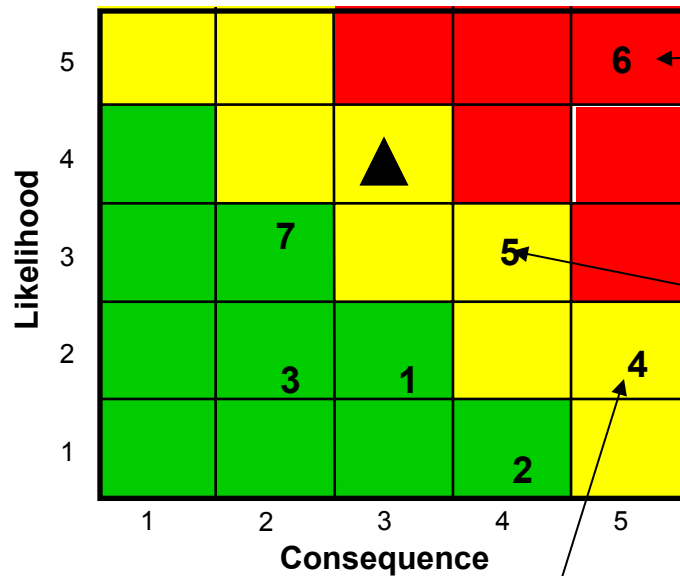
## RISK ASSESSMENT

Program  
Acronym  
ACAT XX

COL, PM

Date of Review: dd mmm yy

Low Risk Medium Risk High Risk



### RISK # 6

Brief description of Issue and rationale for its rating.

Approach to remedy/mitigation.

### RISK #5

Brief description of Issue and rationale for its rating.

Approach to remedy/mitigation.

### RISK # 4

Brief description of Issue and rationale for its rating.

Approach to remedy/mitigation.

### Sustainability Areas (examples)

▲ : Overall Assessment

- 1: Training
- 2: Support Equipment
- 3: Publications
- 4: Facilities
- 5: Maintenance Concept
- 6: Supply Support
- 7: MTBF/Ao/Reliability

Predictive



Historical



- **Contractor Testing (e.g. Qualification, Integration) - Status (R/Y/G)**
  - Major Points/Issues
- **Developmental Testing – Status (R/Y/G)**
  - Major Points/Issues
- **Operational Testing – Status (R/Y/G)**
  - Major Points/Issues
- **Follow-On Operational Testing – Status (R/Y/G)**
  - Major Points/Issues
- **Special Testing – Status (R/Y/G) (Could Include LFT&E, Interoperability Testing (JITC), Etc.)**
  - Major Points/Issues
- **TEMP Status**
- **Other (DOT&E Annual Report to Congress, etc – As Necessary)**

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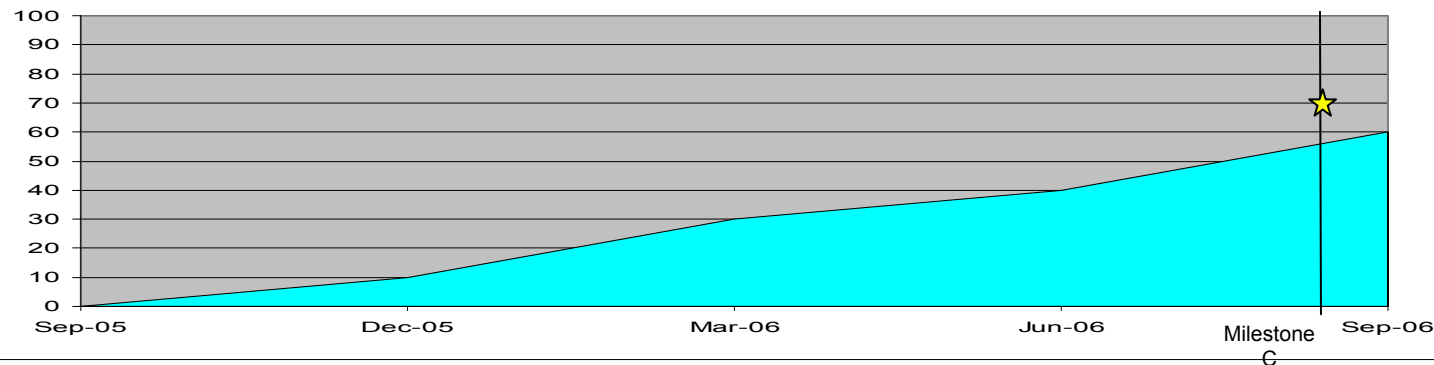
# EXECUTION – TECHNICAL MATURITY

Program  
Acronym  
ACAT XX

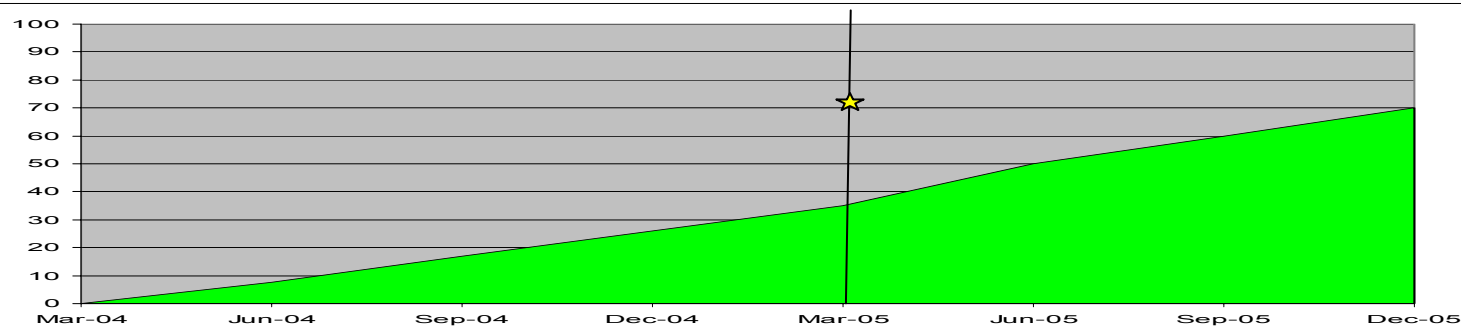
COL, PM

Date of Review: dd mmm yy

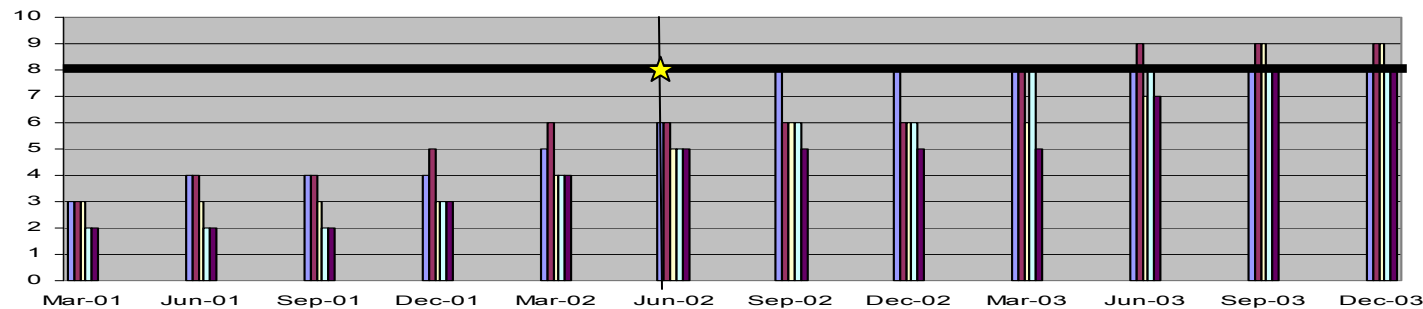
Percentage of Production Processes Under SPC



Percentage of Engineering Drawings Approved/Released



Maturity of Key Technologies



Predictive

Y

Historical

Y<sub>(3)</sub>

<u>AREA(Examples)</u>	<u>STATUS</u>	<u>TREND</u>
<b>DoD Vision</b>	<b>G</b>	<b>(2)</b>
• Transformation	<b>G</b>	<b>(2)</b>
• Interoperability	<b>Y</b>	<b>(3)</b>
• Joint	<b>G</b>	<b>(3)</b>
<b>Army Vision</b>	<b>Y</b>	<b>(4)</b>
• Legacy Force	<b>Y</b>	<b>(4)</b>
• Interim Force	<b>Y</b>	↓
• Objective Force	<b>(N/A)</b>	<b>(N/A)</b>
• Other	<b>(N/A)</b>	<b>(N/A)</b>
• Overall	<b>Y</b>	<b>(2)</b>

Predictive



Historical



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XXX

## PROGRAM ADVOCACY

Program  
Acronym  
ACAT XX

COL, PM

Date of Review: dd mmm yy

<u>AREA(Examples)</u>	<u>STATUS</u>	<u>TREND</u>
• <b>OSD</b> – (Major point)	Y	(2)
• <b>Joint Staff</b> – (Major point)	Y	(2)
• <b>War Fighter</b> – (Major point)	Y	(4)
• <b>Army Secretariat</b> – (Major point)	G	↑
• <b>Congressional</b> – (Major point)	Y	↓
• <b>Industry</b> – (Major Point)	G	(3)
• <b>International</b> – (Major Point)	G	(3)
• <b>Overall</b>	Y	↓

Predictive



Historical



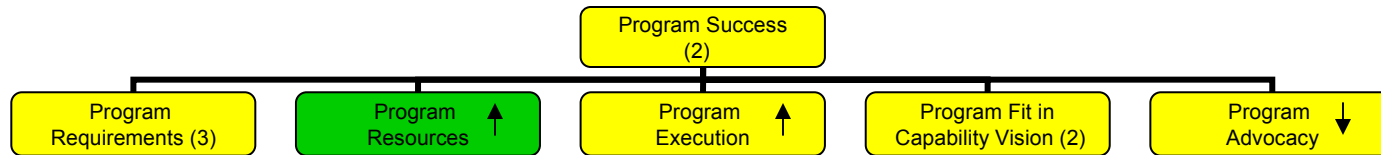
**PEO  
XXX**

## **FINDINGS / ACTIONS**

**Program  
Acronym  
ACAT XX**

**COL, PM**

**Date of Review: dd mmm yy**



- Comments/Recap – PM’s “Closer Slide”

# STATUS/FUTURE PLANS

- **Status**
  - **Multiple Acquisition Staffs (Navy, Air Force, USD(AT&L), NSA, and MDA) Have Requested the Product and are Reviewing /Considering It for Use**
  - **Multiple DoD and Industry Program Managers (including the F/A-22 Program Manager) have Adopted It as an Assessment/Reporting Tool**
  - **GAO, MITRE and IDA have Requested/Received Copies of the Tool for Their Use**
- **OCT 2002 – ASA(ALT) Briefed on Effort; Expressed Intent to Implement Program Success Factors Across Army**
- **DEC 2002 – Program Success Factors Pilot Commences in Two Army Programs (ACS; Phoenix)**
- **Spring 2002 - Automation of Program Success Factors Method Commences Onto the Army Acquisition Information Management (AIM) System**
- **Summer 2003 – Army Plans to Phase-Implement Program Success Factors Across Army Acquisition (Pending Successful Pilot)**